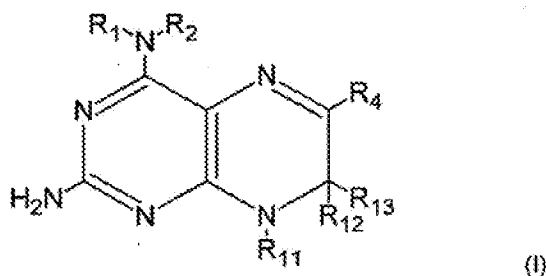


AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-22. (Canceled)

23. (Currently Amended) A compound of formula I, stereoisomeric and tautomeric forms and mixtures thereof in all ratios, and physiologically tolerated salts, hydrates and esters thereof:



wherein:

R₁ is chosen from hydrogen, ^{or lower alkyl} ~~(C₁-C₂₀)-alkyl, (C₄-C₂₀)-alkenyl, (C₁-C₂₀)-alkynyl,~~ cycloalkyl, cycloalkenyl, cycloalkylalkyl, aryl, alkylaryl, and arylalkyl, wherein the organic radicals may be substituted by at least one substituent,

R₂ is chosen from, independently of R₁, hydrogen, (C₁-C₂₀)-alkyl, (C₄-C₂₀)-alkenyl, (C₁-C₂₀)-alkynyl, ~~cycloalkyl, cycloalkenyl, and cycloalkylalkyl,~~ aryl, alkylaryl, and arylalkyl, wherein the organic radicals may be substituted by at least one substituent, or

Serial No.:10/584,996

Author Search

⇒ FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 17:40:49 ON 25 AUG 2008

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FILE COVERS 1907 - 25 Aug 2008 VOL 149 ISS 9

FILE LAST UPDATED: 24 Aug 2008 (20080824/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

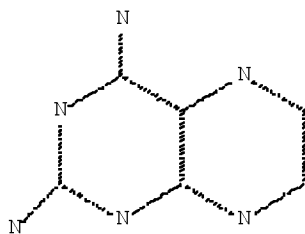
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This file contains CAS Registry Numbers for easy and accurate substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

⇒ D STAT QUE L21

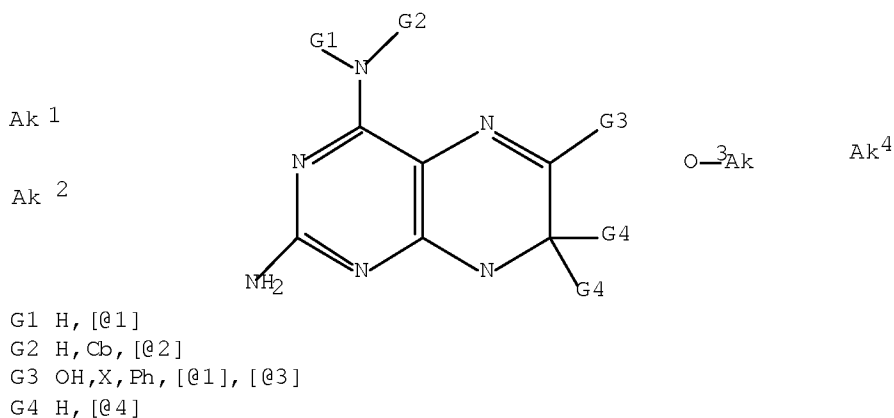
L3 STR



Structure attributes must be viewed using STN Express query preparation.

L5 4906 SEA FILE=REGISTRY SSS FUL L3

L13 STR



Structure attributes must be viewed using STN Express query preparation.

L15 74 SEA FILE=REGISTRY SUB=L5 SSS FUL L13
 L16 113 SEA FILE=HCAPLUS ABB=ON PLU=ON L15
 L17 107 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND (PRY<=2003 OR
 AY<=2003 OR PY<=2003)
 L18 4 SEA FILE=HCAPLUS ABB=ON PLU=ON DOBLHOFFER R?/AU
 L19 56 SEA FILE=HCAPLUS ABB=ON PLU=ON TEGTMEIER F?/AU
 L20 57 SEA FILE=HCAPLUS ABB=ON PLU=ON (L18 OR L19)
 L21 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L17

⇒ D IBIB ED ABS HITSTR L21 1-3

L21 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:612291 HCAPLUS Full-text

DOCUMENT NUMBER: 143:153229

TITLE: Preparation of pharmaceutical compositions containing
 4-amino-7,8-dihydropteridines and their use for the
 treatment of diseases which are caused by an increased
 nitric oxide level

INVENTOR(S): Doblhofer, Robert; Tegtmeier, Frank

PATENT ASSIGNEE(S): Vasopharm Biotech G.m.b.H., Germany

SOURCE: PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005063752	A1	20050714	WO 2003-EP14970	20031230 ←
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,			

TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2552195	A1	20050714	CA 2003-2552195	20031230	←
AU 2003290127	A1	20050721	AU 2003-290127	20031230	←
EP 1699793	A1	20060913	EP 2003-782489	20031230	←

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK

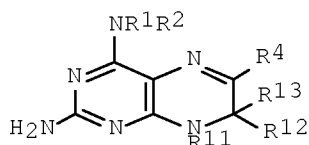
JP 2007525407	T	20070906	JP 2005-512684	20031230	←
IN 2006DN03444	A	20070831	IN 2006-DN3444	20060615	←
US 20080027062	A1	20080131	US 2007-584996	20070611	←

PRIORITY APPLN. INFO.: WO 2003-EP14970 W 20031230 ←

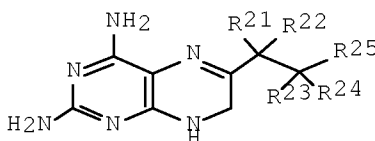
OTHER SOURCE(S): CASREACT 143:153229; MARPAT 143:153229

ED Entered STN: 15 Jul 2005

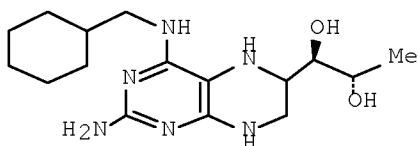
GI



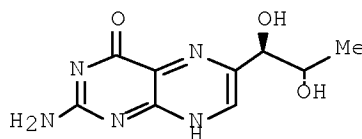
I



II



III



IV

AB The present invention relates to the area of NO synthase inhibition and, more particularly, relates to novel 4-amino-7,8-dihydropteridines, e.g., I [R1, R2 = H, C1-20-alkyl, C1-20-alkenyl, C1-20-alkynyl, C3-8-cycloalkyl, cycloalkenyl, (cycloalkyl)alkyl, aryl, (C1-3-alkyl)aryl, etc.; NR1R2 = 3- to 8-membered ring (optionally containing 1 or 2 other heteroatoms - O, S, N); R4 = C1-20-alkyl, C1-20-alkenyl, C1-20-alkynyl, C3-8-cycloalkyl, cycloalkenyl, (cycloalkyl)alkyl, aryl, (C1-3-alkyl)aryl, etc.; R6, R7 = F, Cl, I, Br, O-(C1-10-alkyl), Oph, OC(:O)(C1-10-alkyl), OC(:O)aryl, NR8R9, oxo, Ph, C(:O)(C1-5-alkyl), CF3, CN, CONR8R9, CO2H, C(:O)O-(C1-5-alkyl), C(:O)O-aryl, S(O)n-(C1-5-alkyl), SO2NR8R9; R8 = H, C1-20-alkyl; R9 = H, C1-20-alkyl, aryl (preferably Ph); R11 = H, C1-20-alkyl, aryl, CO-alkyl, CO-aryl; R12, R13 = H, C1-10-alkyl, aryl, O-(C1-10-alkyl), Oph, OC(:O)-C1-10-alkyl, OC(:O)-aryl, NR8R9, Ph, C(:O)-C1-10-alkyl, CF3, CN, CONR8R9, CO2H, etc.; aryl = (un)substituted Ph, naphthyl, heteroaryl; heteroaryl = 5- to 7-membered ring (optionally containing an addnl. Heteroatom - O, N, S); n = 0 - 2], or their pharmaceutically acceptable acid addition salts, hydrates and esters, pharmaceutical compns. Containing said compds., and the use of said compds. In the treatment of a disorder characterized by a disturbed nitric oxide level. The patent particularly excludes compds. II [R21, R22, R23, R24 = ; R25 = H, Me, CH2OH, CHO, (un)branched C1-9-alkyl, (CHOH)nY, (CHOH)n(CH2)mW; Y = H, C1-9-alkyl; W = H, OH; n, m = 1 - 20]. Thus, 4-[(Cyclohexylmethyl)amino]-5,6,7,8-tetrahydrobiopterin (III) was prepared from biopterin (IV) via acetylation with Ac2O in pyridine, reaction with PhCH2CH2OH in dioxane containing Ph3P, amination with (cyclohexylmethyl)amine in dioxane, and hydrogenation in CF2CO4H containing catalytic PtO2. The in vivo stability

Serial No.:10/584,996

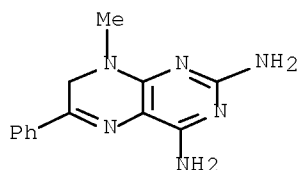
[t1/2 = << 5 min. (tetrahydro); t1/2 = 48 min. (dihydro)] and NO release inhibitor activity for I was determined

IT 858127-54-5P, 2,4-Diamino-8-methyl-6-phenyl-7,8-dihydropteridine
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of pharmaceutical compns. Containing 4-amino-7,8-dihydropteridines and their use for the treatment of diseases which are caused by an increased nitric oxide level)

RN 858127-54-5 HCAPLUS

CN 2,4-Pteridinediamine, 7,8-dihydro-8-methyl-6-phenyl- (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:371070 HCAPLUS Full-text

DOCUMENT NUMBER: 142:404279

TITLE: Use of pteridine derivatives for the treatment of increased intracranial pressure and secondary ischemia

INVENTOR(S): Doblhofer, Robert; Tegtmeyer, Frank

PATENT ASSIGNEE(S): Vasopharm Biotech GmbH, Germany

SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005037286	A1	20050428	WO 2003-EP3096	20030325 ←
W: US				
CA 2519919	A1	20041007	CA 2003-2519919	20031008 ←
WO 2004084906	A1	20041007	WO 2003-EP11138	20031008 ←
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003293607	A1	20041018	AU 2003-293607	20031008 ←
EP 1605947	A1	20051221	EP 2003-788945	20031008 ←

Serial No.:10/584,996

EP 1605947 B1 20060802
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 CN 1758913 A 20060412 CN 2003-80110211 20031008 ←
 JP 2006514965 T 20060518 JP 2004-569858 20031008 ←
 AT 334681 T 20060815 AT 2003-788945 20031008 ←
 ES 2270151 T3 20070401 ES 2003-788945 20031008 ←
 MX 2005PA09491 A 20060222 MX 2005-PA9491 20050906 ←
 US 20070032498 A1 20070208 US 2005-549200 20050916 ←
 PRIORITY APPLN. INFO.: WO 2003-EP3096 A 20030325 ←
 WO 2003-EP11138 W 20031008 ←

OTHER SOURCE(S): MARPAT 142:404279

ED Entered STN: 29 Apr 2005

AB The invention discloses the use of pteridine _erives. For treating increased intracranial pressure and/or secondary ischemia. Compound preparation is included.

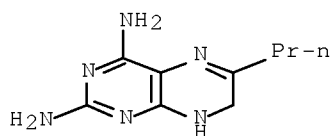
IT 50691-64-0

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(pteridine _erives. For treatment of increased intracranial pressure and secondary ischemia)

RN 50691-64-0 HCAPLUS

CN 2,4-Pteridinediamine, 1,7-dihydro-6-propyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:817714 HCAPLUS Full-text

DOCUMENT NUMBER: 141:307610

TITLE: Use of pteridine derivatives for the treatment of increased intracranial pressure, secondary ischemia, and disorders associated with an increased level of cytotoxic reactive oxygen species

INVENTOR(S): Dobihofer, Robert; Tegtmeyer, Frank

PATENT ASSIGNEE(S): Vasopharm Biotech G.m.b.H., Germany

SOURCE: PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

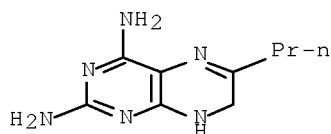
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004084906	A1	20041007	WO 2003-EP11138	20031008 ←
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Serial No.:10/584,996

LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,
 OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
 TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
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 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 WO 2005037286 A1 20050428 WO 2003-EP3096 20030325 ←
 W: US
 CA 2519919 A1 20041007 CA 2003-2519919 20031008 ←
 AU 2003293607 A1 20041018 AU 2003-293607 20031008 ←
 EP 1605947 A1 20051221 EP 2003-788945 20031008 ←
 EP 1605947 B1 20060802
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 JP 2006514965 T 20060518 JP 2004-569858 20031008 ←
 MX 2005PA09491 A 20060222 MX 2005-PA9491 20050906 ←
 US 20070032498 A1 20070208 US 2005-549200 20050916 ←
 PRIORITY APPLN. INFO.: WO 2003-EP3096 A 20030325 ←
 WO 2003-EP11138 W 20031008 ←
 OTHER SOURCE(S): MARPAT 141:307610
 ED Entered STN: 07 Oct 2004
 AB The present invention relates to the use of pteridine _erives. For the
 treatment of increased intracranial pressure, secondary ischemia, and
 disorders associated with an increased level of cytotoxic reactive oxygen
 species. H4-aminobiopterin (preparation given) caused a clear concentration
 dependent contraction of both rat basilar arteries and middle cerebral
 arteries.
 IT 50691-64-0
 RL: BSU (Biological study, unclassified); PAC (Pharmacological activity);
 THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (pteridine _erives. For treatment of increased intracranial pressure,
 secondary ischemia, and disorders associated with increased levels of
 cytotoxic reactive oxygen species)
 RN 50691-64-0 HCAPLUS
 CN 2,4-Pteridinediamine, 1,7-dihydro-6-propyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Serial No.:10/584,996

Structure Search

=> FILE HCAPLUS
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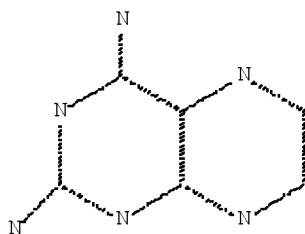
FILE COVERS 1907 - 25 Aug 2008 VOL 149 ISS 9
FILE LAST UPDATED: 24 Aug 2008 (20080824/ED)

HCAPLUS now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

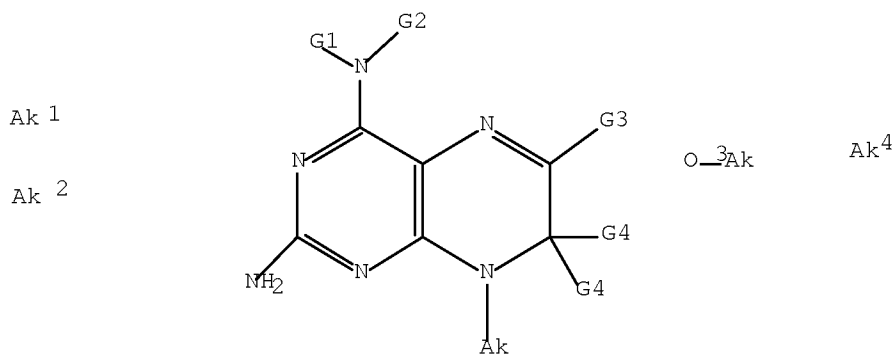
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This file contains CAS Registry Numbers for easy and accurate substance identification.
'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> D STAT QUE L30
L3 STR



Structure attributes must be viewed using STN Express query preparation.
L5 4906 SEA FILE=REGISTRY SSS FUL L3
L27 STR



G1 H, [01]
 G2 H, Cb, [02]
 G3 OH, X, Ph, [01], [03]
 G4 H, [04]

Structure attributes must be viewed using STN Express query preparation.

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L30 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L29

=> S L30 NOT L21

L40 3 L30 NOT L21

=> FILE WPIX

FILE 'WPIX' ENTERED AT 17:41:33 ON 25 AUG 2008

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FILE LAST UPDATED: 22 AUG 2008 <20080822/UP>

MOST RECENT UPDATE: 200854 <200854/DW>

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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>>> IPC Reform backfile reclassifications have been loaded to the end of June 2008. No update date (UP) has been created for the reclassified documents, but they can be identified by 20060101/UPIC and 20061231/UPIC, 20070601/UPIC, 20071001/UPIC, 20071130/UPIC, 20080401/UPIC and 20080701/UPIC. ECLA reclassifications to June and US national classifications to the end of April 2008 have also been loaded. Update dates 20080401 and 20080701/UPEC and /UPNC have been assigned to these. <<<

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<http://scientific.thomsonreuters.com/support/patents/coverage/latestupdates/>

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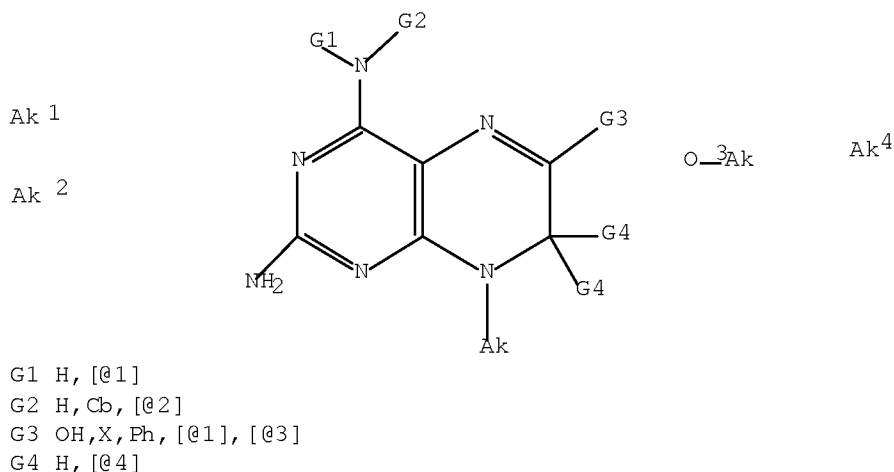
http://www.stn-international.com/archive/presentations/DWPIAnaVist2_0710.pdf

>>> HELP for European Patent Classifications see HELP ECLA, HELP ICO <<<

>>> Please note that the COPYRIGHT notification has changed <<<

'BI,ABEX' IS DEFAULT SEARCH FIELD FOR 'WPIX' FILE

=> D STAT QUE L32
L27 STR



Structure attributes must be viewed using STN Express query preparation.
L32 0 SEA FILE=WPIX SSS FUL L27

100.0% PROCESSED 543 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.04

=> FILE BEILSTEIN

FILE 'BEILSTEIN' ENTERED AT 17:41:44 ON 25 AUG 2008

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FILE LAST UPDATED ON April 1, 2008

FILE COVERS 1771 TO 2008.

*** FILE CONTAINS 10.322,808 SUBSTANCES ***

>>>PLEASE NOTE: Reaction Data and substance data are stored in
separate documents and can not be searched together in one query.
Reaction data for BEILSTEIN compounds may be displayed
immediately with the display codes PRE (preparations) and REA
(reactions). A substance answer set retrieved after the search
for a chemical name, a compounds with available reaction
information by combining with PRE/FA, REA/FA or more generally
with RX/FA. The BEILSTEIN Registry Number (BRN) is the link
between a BEILSTEIN compound and belonging reactions. For mo
detailed reaction searches BRNs can be searched as reaction
partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

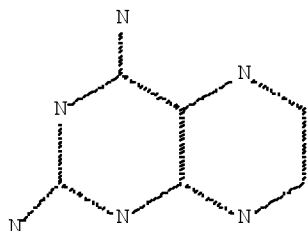
>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

Serial No.:10/584,996

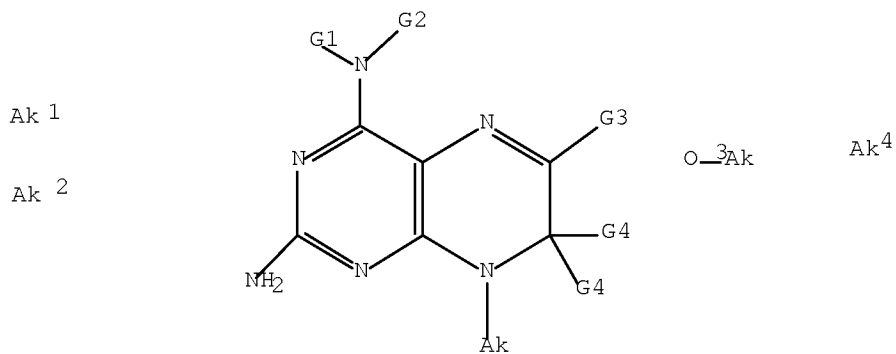
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST. *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS. *
* FOR PRICE INFORMATION SEE HELP COST *

>>> Price change as of January 1st, 2008: Connect Time and Structure
Search fees re-introduced. See NEWS and HELP COST <<<

=> D STAT QUE L37
L3 STR



Structure attributes must be viewed using STN Express query preparation.
L5 4906 SEA FILE=REGISTRY SSS FUL L3
L27 STR



G1 H, [01]
G2 H, Cb, [02]
G3 OH, X, Ph, [01], [03]
G4 H, [04]

Structure attributes must be viewed using STN Express query preparation.
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L34 5 SEA FILE=BEILSTEIN ABB=ON PLU=ON L29
L35 1 SEA FILE=BEILSTEIN ABB=ON PLU=ON L34 AND BABSAN/FA
L37 4 SEA FILE=BEILSTEIN ABB=ON PLU=ON L34 NOT L35

=> FILE BABS

Serial No.:10/584,996

FILE 'BABS' ENTERED AT 17:41:58 ON 25 AUG 2008
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FILE LAST UPDATED: 14 JUL 2008 <20080714/UP>
FILE COVERS 1980 TO DATE.

=> D STAT QUE L36
L36 1 SEA FILE=BABS ABB=ON PLU=ON 5617307/BABSAN

=> FILE MARPAT
FILE 'MARPAT' ENTERED AT 17:42:10 ON 25 AUG 2008
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FILE CONTENT: 1961-PRESENT VOL 149 ISS 7 (20080822/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

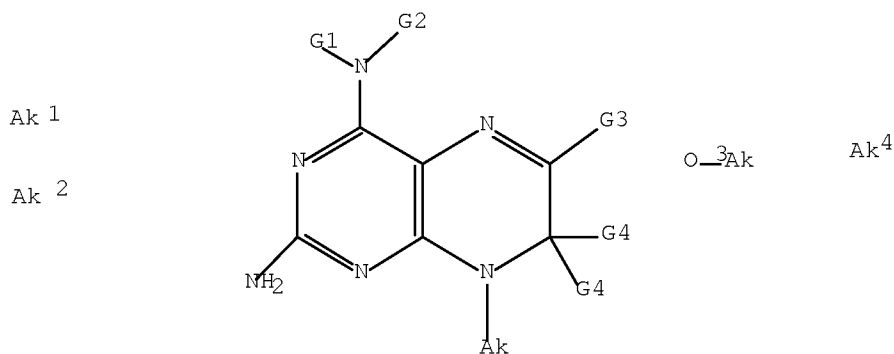
MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US	20080167493	10	JUL	2008
DE	102007009957	03	JUL	2008
EP	1939208	02	JUL	2008
JP	2008159496	10	JUL	2008
WO	2008086729	24	JUL	2008
GB	2444641	11	JUN	2008
FR	2910897	04	JUL	2008
RU	2330028	27	JUL	2008
CA	2615024	14	JUN	2008

Expanded G-group definition display now available.

Effective December 15th the iteration and answer limits in MARPAT
have increased from 100,000 to 200,000 for both on-line and batch
searches. For more information on MARPAT search limits, type HELP
SLIMITS at an arrow prompt.

=> D STAT QUE L39
L27 STR



G1 H, [01]
 G2 H, Cb, [02]
 G3 OH, X, Ph, [01], [03]
 G4 H, [04]

Structure attributes must be viewed using STN Express query preparation.
 L39 11 SEA FILE=MARPAT SSS FUL L27

100.0% PROCESSED 3228 ITERATIONS 11 ANSWERS
 SEARCH TIME: 00.00.02

=> DUP REM L40 L32 L37 L36 L39

L32 HAS NO ANSWERS

DUPLICATE IS NOT AVAILABLE IN 'BEILSTEIN'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

FILE 'HCAPLUS' ENTERED AT 17:42:30 ON 25 AUG 2008

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FILE 'BEILSTEIN' ENTERED AT 17:42:30 ON 25 AUG 2008

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FILE 'BABS' ENTERED AT 17:42:30 ON 25 AUG 2008

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FILE 'MARPAT' ENTERED AT 17:42:30 ON 25 AUG 2008

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PROCESSING COMPLETED FOR L40

PROCESSING COMPLETED FOR L32

PROCESSING COMPLETED FOR L37

PROCESSING COMPLETED FOR L36

PROCESSING COMPLETED FOR L39

L41 18 DUP REM L40 L32 L37 L36 L39 (1 DUPLICATE REMOVED)

ANSWERS '1-3' FROM FILE HCAPLUS

ANSWERS '4-7' FROM FILE BEILSTEIN

ANSWERS '8-18' FROM FILE MARPAT

=> D IBIB ED ABS HITSTR 1-3; D IDE ALLREF 4-7; D IBIB AB QHIT 8-18

L41 ANSWER 1 OF 18 HCAPLUS COPYRIGHT 2008 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 1986:207023 HCAPLUS Full-text

DOCUMENT NUMBER: 104:207023

ORIGINAL REFERENCE NO.: 104:32801a,32804a

TITLE: Specific inhibitors in vitamin biosynthesis. Part 9.
Reactions of 7,7-dialkyl-7,8-dihydropteridines of use
in the synthesis of potential inhibitors of
tetrahydrofolate biosynthesis

AUTHOR(S): Al-Hassan, Saiba S.; Cameron, Robert; Nicholson,
Sydney H.; Robinson, David H.; Suckling, Colin J.;
Wood, Hamish C. S.

CORPORATE SOURCE: Dep. Pure Appl. Chem., Univ. Strathclyde, Glasgow, G1
1XL, UK

SOURCE: Journal of the Chemical Society, Perkin Transactions
1: Organic and Bio-Organic Chemistry (1972-1999)
(1985), (10), 2145-50
CODEN: JCPRB4; ISSN: 0300-922X

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 104:207023

ED Entered STN: 14 Jun 1986

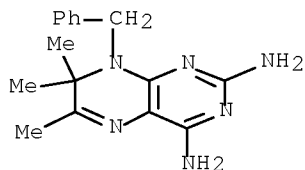
AB 7,7-Dialkyl-7,8-dihydropteridines which were modified on the pyrazine ring to
yield compds. with inhibitory activity against 6-hydroxymethyl-7,8-
dihydropterin pyrophosphokinase and dihydrofolate reductase. These enzymes
lie along the pathway leading to the coenzyme tetrahydrofolate. 6-Me
substituents showed typical reactivity of alkyl groups α - to a pyrazine N and
underwent exchange of H for D under acidic and basic conditions; however, they
failed to undergo clean bromination or aldol condensation. Autoxidn. of alkyl
groups at this position provided ready access to pteridines substituted with
carbonyl groups at C-6. 6-Formyl derivs. underwent Wittig-type reactions to
yield 6-arylalkylidene compds. that are potential inhibitors of dihydrofolate
reductase. Alkylation of the anion of 2,4-diamino-7,8-dihydro-6,7,7-
trimethylpteridine occurred at N-8 in low yield. The reduction of the blocked
dihydropteridine system was readily accomplished using catalytic hydrogenation
in a manner analogous to that used for normal pteridines.

IT 102223-19-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 102223-19-8 HCAPLUS

CN 2,4-Pteridinediamine, 7,8-dihydro-6,7,7-trimethyl-8-(phenylmethyl)- (CA
INDEX NAME)



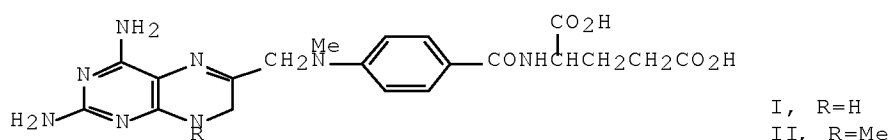
L41 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1977:527210 HCAPLUS Full-text

DOCUMENT NUMBER: 87:127210

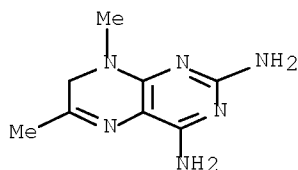
Serial No.:10/584,996

ORIGINAL REFERENCE NO.: 87:20125a,20128a
 TITLE: Methotrexate analogs. 9. Synthesis and biological properties of some 8-alkyl-7,8-dihydro analogs
 AUTHOR(S): Chaykovsky, Michael; Hirst, Margaret; Lazarus, Herbert; Martinelli, Jack E.; Kisliuk, Roy L.; Gaumont, Yvette
 CORPORATE SOURCE: Sidney Farber Cancer Inst., Harvard Med. Sch., Boston, MA, USA
 SOURCE: Journal of Medicinal Chemistry (1977), 20(10), 1323-7
 CODEN: JMCMAR; ISSN: 0022-2623
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 87:127210
 ED Entered STN: 12 May 1984
 GI

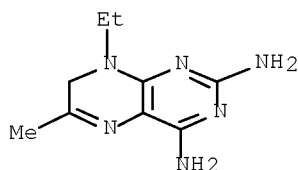


AB Eight title derivs. were prepared by direct alkylation of 7,8-dihydromethotrexate (I) [14009-31-5]. I and 8-methyl-7,8-dihydromethotrexate (II) [54820-64-3] were comparable to methotrexate (MTX) in their inhibition of Lactobacillus casei growth. I and all its derivs. were less inhibitory toward dihydrofolate reductase [9002-03-3] than MTX, but all were more inhibitory toward thymidylate synthetase [9031-61-2] from L. casei. I was about as active as MTX in vitro against CCRF-CEM human lymphoblastic cells, but was inactive against L1210 leukemia in mice. The 8-alkyl derivs. of I were much less toxic than I, and several derivs. had some in vivo activity against L1210 leukemia.

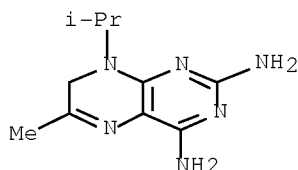
IT 54820-59-6P 54820-61-0P 54820-62-1P
 54820-63-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 54820-59-6 HCAPLUS
 CN 2,4-Pteridinediamine, 7,8-dihydro-6,8-dimethyl- (CA INDEX NAME)



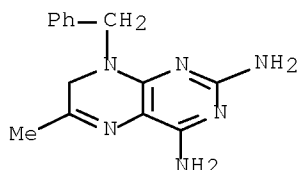
RN 54820-61-0 HCAPLUS
 CN 2,4-Pteridinediamine, 8-ethyl-7,8-dihydro-6-methyl- (CA INDEX NAME)



RN 54820-62-1 HCAPLUS
 CN 2,4-Pteridinediamine, 7,8-dihydro-6-methyl-8-(1-methylethyl)- (CA INDEX NAME)



RN 54820-63-2 HCAPLUS
 CN 2,4-Pteridinediamine, 7,8-dihydro-6-methyl-8-(phenylmethyl)- (CA INDEX NAME)



L41 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1975:86281 HCAPLUS Full-text
 DOCUMENT NUMBER: 82:86281
 ORIGINAL REFERENCE NO.: 82:13795a,13798a
 TITLE: Direct N8-alkylation of 2,4-diamino-7,8-dihydropteridines. Preparation of 7,8-dihydro-8-methyl methotrexate
 AUTHOR(S): Chaykovsky, Michael
 CORPORATE SOURCE: Sidney Farber Cancer Cent., Harvard Med. Sch., Boston, MA, USA
 SOURCE: Journal of Organic Chemistry (1975), 40(1), 145-146
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 82:86281
 ED Entered STN: 12 May 1984
 GI For diagram(s), see printed CA Issue.

Serial No.:10/584,996

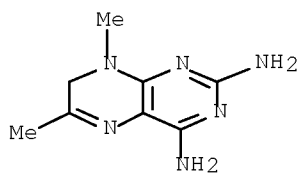
AB A method is described for the N8-alkylation of 2,4-diamino-7,8-dihydropteridines by reaction of these compds. with BuLi in Me₂SO followed by treatment with an alkyl halide. 2,4-Diamino-7,8-dihydro-6-methylpteridine (I) was converted into the 8-Me, Et, CHMe₂, and PhCH₂ derivs. in yields of 71, 60, 24, and 80%, resp. The antitumor agent, methotrexate, was reduced with Na dithionite to the 7,8-dihydro derivative II, which was then methylated at N-8 in 50% yield. These compds. were prepared for chemotherapeutic evaluation.

IT 54820-59-6P 54820-61-0P 54820-62-1P
54820-63-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

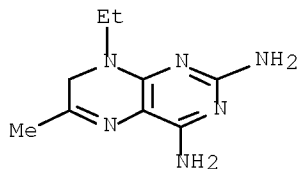
RN 54820-59-6 HCAPLUS

CN 2,4-Pteridinediamine, 7,8-dihydro-6,8-dimethyl- (CA INDEX NAME)



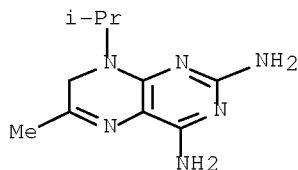
RN 54820-61-0 HCAPLUS

CN 2,4-Pteridinediamine, 8-ethyl-7,8-dihydro-6-methyl- (CA INDEX NAME)



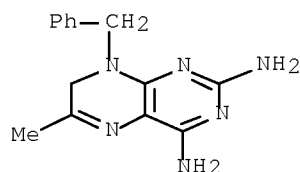
RN 54820-62-1 HCAPLUS

CN 2,4-Pteridinediamine, 7,8-dihydro-6-methyl-8-(1-methylethyl)- (CA INDEX NAME)



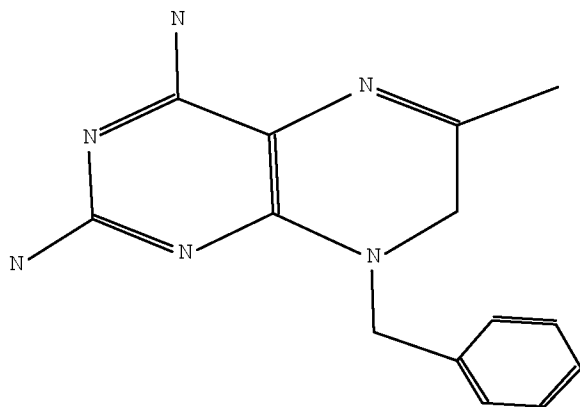
RN 54820-63-2 HCAPLUS

CN 2,4-Pteridinediamine, 7,8-dihydro-6-methyl-8-(phenylmethyl)- (CA INDEX NAME)



L41 ANSWER 4 OF 18 BEILSTEIN COPYRIGHT 2008 BEILSTEIN MDL on STN

Beilstein Records (BRN): 551214
 Beilstein Pref. RN (BPR): 54820-63-2
 CAS Reg. No. (RN): 54820-63-2
 Chemical Name (CN): 8-benzyl-6-methyl-7,8-dihydro-pteridine-2,4-diamine
 Autonom Name (AUN): 8-benzyl-6-methyl-7,8-dihydro-pteridine-2,4-diamine
 Molec. Formula (MF): C14 H16 N6
 Molecular Weight (MW): 268.32
 Lawson Number (LN): 30708, 14140
 Compound Type (CTYPE): heterocyclic
 Constitution ID (CONSID): 514022
 Tautomer ID (TAUTID): 549847
 Beilstein Citation (BSO): 5-26-17-00373
 Entry Date (DED): 1988/11/28
 Update Date (DUPD): 1995/11/15



Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1

Serial No.:10/584,996

BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	2
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
MP	Melting Point	1
UVS	UV and Visible Spectrum	1

This substance also occurs in Reaction Documents:

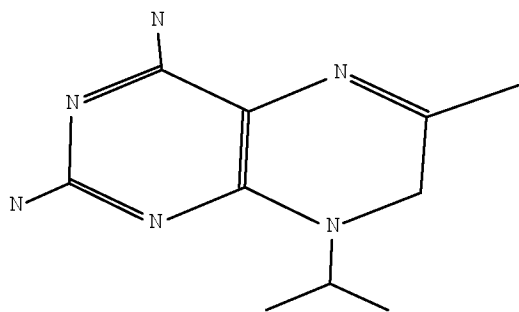
Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

All References:
ALLREF

1. Chaykorsky et al., J.Med.Chem., CODEN: JMCMAR, 20, <1977>, 1323,1326
2. Chaykovsky, J.Org.Chem., CODEN: JOCEAH, 40, <1975>, 145

L41 ANSWER 5 OF 18 BEILSTEIN COPYRIGHT 2008 BEILSTEIN MDL on STN

Beilstein Records (BRN):	532168
Beilstein Pref. RN (BPR):	54820-62-1
CAS Reg. No. (RN):	54820-62-1
Chemical Name (CN):	8-isopropyl-6-methyl-7,8-dihydro-pteridine-2,4-diamine
Autonom Name (AUN):	8-isopropyl-6-methyl-7,8-dihydro-pteridine-2,4-diamine
Molec. Formula (MF):	C10 H16 N6
Molecular Weight (MW):	220.28
Lawson Number (LN):	30708, 2836
Compound Type (CTYPE):	heterocyclic
Constitution ID (CONSID):	494130
Tautomer ID (TAUTID):	541142
Beilstein Citation (BSO):	5-26-17-00373
Entry Date (DED):	1988/11/28
Update Date (DUPD):	1995/11/15



Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	2
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
MP	Melting Point	1
UVS	UV and Visible Spectrum	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

All References:

ALLREF

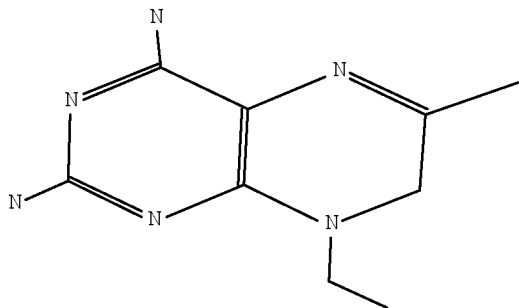
1. Chaykorsky et al., J.Med.Chem., CODEN: JMCMAR, 20, <1977>, 1323,1326
2. Chaykovsky, J.Org.Chem., CODEN: JOCEAH, 40, <1975>, 145

L41 ANSWER 6 OF 18 BEILSTEIN COPYRIGHT 2008 BEILSTEIN MDL on STN

Beilstein Records (BRN): 531116
 Beilstein Pref. RN (BPR): 54820-61-0
 CAS Reg. No. (RN): 54820-61-0
 Chemical Name (CN): 8-ethyl-6-methyl-7,8-dihydro-pteridine-2,4-diamine
 Autonom Name (AUN): 8-ethyl-6-methyl-7,8-dihydro-pteridine-2,4-diamine

Serial No.:10/584,996

Molec. Formula (MF): C9 H14 N6
Molecular Weight (MW): 206.25
Lawson Number (LN): 30708, 2826
Compound Type (CTYPE): heterocyclic
Constitution ID (CONSID): 492436
Tautomer ID (TAUTID): 540920
Beilstein Citation (BSO): 5-26-17-00373
Entry Date (DED): 1988/11/28
Update Date (DUPD): 1995/11/15



Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	2
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
MP	Melting Point	1
UVS	UV and Visible Spectrum	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

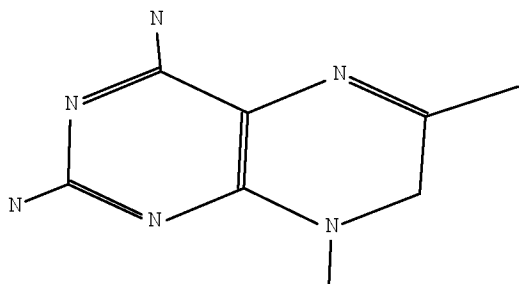
All References:

ALLREF

1. Chaykorsky et al., J.Med.Chem., CODEN: JMCMAR, 20, <1977>, 1323,1326

L41 ANSWER 7 OF 18 BEILSTEIN COPYRIGHT 2008 BEILSTEIN MDL on STN

Beilstein Records (BRN): 525714
 Beilstein Pref. RN (BPR): 54820-59-6
 CAS Reg. No. (RN): 54820-59-6
 Chemical Name (CN): 6,8-dimethyl-7,8-dihydro-pteridine-2,4-diamine
 Autonom Name (AUN): 6,8-dimethyl-7,8-dihydro-pteridine-2,4-diamine
 Molec. Formula (MF): C8 H12 N6
 Molecular Weight (MW): 192.22
 Lawson Number (LN): 30708, 2817
 Compound Type (CTYPE): heterocyclic
 Constitution ID (CONSID): 487558
 Tautomer ID (TAUTID): 538046
 Beilstein Citation (BSO): 5-26-17-00372
 Entry Date (DED): 1988/11/28
 Update Date (DUPD): 1995/11/15



Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	2
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
MP	Melting Point	1
NMR	Nuclear Magnetic Resonance	1
UVS	UV and Visible Spectrum	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

All References:

ALLREF

1. Chaykorsky et al., J.Med.Chem., CODEN: JMCMAR, 20, <1977>, 1323,1326
2. Chaykovsky, J.Org.Chem., CODEN: JOCEAH, 40, <1975>, 145

L41 ANSWER 8 OF 18 MARPAT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 148:517556 MARPAT Full-text

TITLE: Heteroaryl compounds, compositions thereof, preparation and methods of treatment therewith

INVENTOR(S): Mortensen, Deborah Sue; Mederos, Maria Mercedes Delgado; Sapienza, John Joseph; Albers, Ronald J.; Lee, Branden G.; Harris, Roy Leonard., III; Shevlin, Graziella Isabel; Huang, Dehua; Schwarz, Kimberly Lyn; Packard, Garrick K.; Parnes, Jason Simon; Papa, Patrick William; Tehrani, Lida Radnia; Perrin-Ninkovic, Sophie

PATENT ASSIGNEE(S): Signal Pharmaceuticals, LLC, USA

SOURCE: PCT Int. Appl., 299pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008051493	A2	20080502	WO 2007-US22374	20071018
WO 2008051493	A3	20080703		

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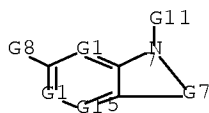
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PRIORITY APPLN. INFO.: US 2006-853166P 20061019

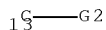
AB Provided herein are heteroaryl compds. having the following structure I, compns. comprising an effective amount of a heteroaryl compound and methods for treating or preventing cancer, inflammatory conditions, immunol. conditions, metabolic conditions and conditions treatable or preventable by inhibition of a kinase pathway comprising administering an effective amount of a heteroaryl compound to a patient in need thereof. Compds. of formula I wherein X, Y and Z are independently N and CR₃, wherein at least one of X, Y

and Z is N and at least one of X, Y and Z is CR₃; A-B-Q taken together to form CHR₄CONH, COCHR₄NH, CONH, CH₂CO₂, COCH₂O, CO₂, and CONHR₃; L is a bond, NH and O; R₁ and R₂ are independently H, (un)substituted C₁₋₈ alkyl, (un)substituted C₂₋₈ alkenyl, (un)substituted (hetero)aryl, and (un)substituted (hetero)cycloalkyl; R₃ is H, (un)substituted C₁₋₈ alkyl, (un)substituted C₂₋₈ alkenyl, (un)substituted (hetero)aryl, (un)substituted (hetero)cycloalkyl, NHR₄ and N(R₄)₂; R₄ is (un)substituted C₁₋₈ alkyl, (un)substituted C₂₋₈ alkenyl, (un)substituted (hetero)aryl, and (un)substituted (hetero)cycloalkyl; and their pharmaceutically acceptable salts thereof, are claimed. Example compound II was prepared by debenzylation of [3-amino-6-(quinolin-5-yl)pyrazin-2-yl](4-methoxybenzyl)amine; the resulting 5-(quinolin-5-yl)pyrazin-2,3-diamine underwent cyclization with urea to give compound II. All the invention compds. were evaluated for their protein kinase inhibitory activity. From the assay, it was determined that compound II exhibited IC₅₀ values of 0.1-5 μM against mTOR, and >30 μM against PKCθ.

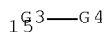
MSTR 1



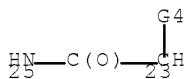
G1 = N / 13



G2 = 15



G3 = NH
G7 = 25-5 23-7



G8 = NH₂
G11 = alkyl <containing 1-8 C> (opt. substd.)

Patent location: claim 1
Note: or pharmaceutically acceptable salts
Note: substitution is restricted

Serial No.:10/584,996

L41 ANSWER 9 OF 18 MARPAT COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 146:221126 MARPAT Full-text
 TITLE: Dihydropteridinones in the treatment of respiratory diseases
 INVENTOR(S): Maier, Udo; Kalkbrenner, Frank; Breitfelder, Steffen; Buettner, Frank; Grauert, Matthias; Hoffmann, Matthias
 PATENT ASSIGNEE(S): Boehringer Ingelheim International GmbH, Germany; Boehringer Ingelheim Pharma GmbH & Co.Kg
 SOURCE: PCT Int. Appl., 93pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007014838	A1	20070208	WO 2006-EP64305	20060717
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
CA 2617589	A1	20070208	CA 2006-2617589	20060717
EP 1915155	A1	20080430	EP 2006-777805	20060717
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
US 20070043055	A1	20070222	US 2006-458217	20060718
PRIORITY APPLN. INFO.:			EP 2005-107149	20050803
			WO 2006-EP64305	20060717
AB The invention discloses the use of dihydropteridinones I [X = O, S; R1 = H, NH2, XH, etc.; R2 = H, CHO, XH, etc.; R3, R4 = (un)substituted C1-10 alkyl, C2-10 alkenyl, etc.; R5 = H, (un)substituted C1-10 alkyl, etc.; R6 = (un)substituted (hetero)aryl; R7 = H, COX-C1-4 alkyl; R8 = H, (un)substituted C1-4 alkyl, etc.] for the preparation of a medicament for the treatment of respiratory diseases.				

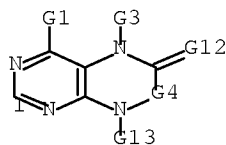
MSTR 1

G17—G15—G18

G1 = NH2
 G4 = 14



G12 = O
 G13 = alkyl <containing 1-10 C> (opt. substd.)
 G15 = NH
 G18 = 1



Patent location: claim 1
 Note: and pharmacologically acceptable acid addition salts
 Note: also incorporates claims 10 and 12
 Note: substitution is restricted
 Stereochemistry: and tautomers, racemates, enantiomers, diastereomers and mixtures

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 10 OF 18 MARPAT COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 143:153229 MARPAT Full-text
 TITLE: Preparation of pharmaceutical compositions containing 4-amino-7,8-dihydropteridines and their use for the treatment of diseases which are caused by an increased nitric oxide level
 INVENTOR(S): Doblhofer, Robert; Tegtmeier, Frank
 PATENT ASSIGNEE(S): Vasopharm Biotech G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 46 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

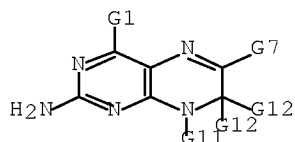
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005063752	A1	20050714	WO 2003-EP14970	20031230
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2552195	A1	20050714	CA 2003-2552195	20031230
AU 2003290127	A1	20050721	AU 2003-290127	20031230
EP 1699793	A1	20060913	EP 2003-782489	20031230
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,			

Serial No.:10/584,996

IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK
 JP 2007525407 T 20070906 JP 2005-512684 20031230
 IN 2006DN03444 A 20070831 IN 2006-DN3444 20060615
 US 20080027062 A1 20080131 US 2007-584996 20070611
 PRIORITY APPLN. INFO.: WO 2003-EP14970 20031230
 OTHER SOURCE(S): CASREACT 143:153229

AB The present invention relates to the area of NO synthase inhibition and, more particularly, relates to novel 4-amino-7,8-dihydropteridines, e.g., I [R1, R2 = H, C1-20-alkyl, C1-20-alkenyl, C1-20-alkynyl, C3-8-cycloalkyl, cycloalkenyl, (cycloalkyl)alkyl, aryl, (C1-3-alkyl)aryl, etc.; NR1R2 = 3- to 8-membered ring (optionally containing 1 or 2 other heteroatoms - O, S, N); R4 = C1-20-alkyl, C1-20-alkenyl, C1-20-alkynyl, C3-8-cycloalkyl, cycloalkenyl, (cycloalkyl)alkyl, aryl, (C1-3-alkyl)aryl, etc.; R6, R7 = F, Cl, I, Br, O-(C1-10-alkyl), OPh, OC(:O)(C1-10-alkyl), OC(:O)aryl, NR8R9, oxo, Ph, C(:O)(C1-5-alkyl), CF3, CN, CONR8R9, CO2H, C(:O)O-(C1-5-alkyl), C(:O)O-aryl, S(O)n-(C1-5-alkyl), SO2NR8R9; R8 = H, C1-20-alkyl; R9 = H, C1-20-alkyl, aryl (preferably Ph); R11 = H, C1-20-alkyl, aryl, CO-alkyl, CO-aryl; R12, R13 = H, C1-10-alkyl, aryl, O-(C1-10-alkyl), OPh, OC(:O)-C1-10-alkyl, OC(:O)-aryl, NR8R9, Ph, C(:O)-C1-10-alkyl, CF3, CN, CONR8R9, CO2H, etc.; aryl = (un)substituted Ph, naphthyl, heteroaryl; heteroaryl = 5- to 7-membered ring (optionally containing an addnl. heteroatom - O, N, S); n = 0 - 2], or their pharmaceutically acceptable acid addition salts, hydrates and esters, pharmaceutical compns. containing said compds., and the use of said compds. in the treatment of a disorder characterized by a disturbed nitric oxide level. The patent particularly excludes compds. II [R21, R22, R23, R24 = ; R25 = H, Me, CH2OH, CHO, (un)branched C1-9-alkyl, (CHOH)nY, (CHOH)n(CH2)mW; Y = H, C1-9-alkyl; W = H, OH; n, m = 1 - 20]. Thus, 4-[(Cyclohexylmethyl)amino]-5,6,7,8-tetrahydrobiopterin (III) was prepared from biopterin (IV) via acetylation with Ac2O in pyridine, reaction with PhCH2CH2OH in dioxane containing Ph3P, amination with (cyclohexylmethyl)amine in dioxane, and hydrogenation in CF2CO4H containing catalytic PtO2. The in vivo stability [t1/2 = << 5 min. (tetrahydro); t1/2 = 48 min. (dihydro)] and NO release inhibitor activity for I was determined

MSTR 1



G1 = NH2
 G7 = Ph (opt. substd. by alkyl <containing 1-20 C>)
 G11 = alkyl <containing 1-20 C> (opt. substd.)
 Patent location: claim 1
 Note: substitution is restricted
 Note: and tautomeric forms and mixtures and physiologically tolerated salts, hydrates and esters
 Note: additional oxo formation also claimed
 Stereochemistry: and stereoisomeric forms and mixtures

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 11 OF 18 MARPAT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 142:404279 MARPAT Full-text

TITLE: Use of pteridine derivatives for the treatment of increased intracranial pressure and secondary ischemia

INVENTOR(S): Doblhofer, Robert; Tegtmeier, Frank

PATENT ASSIGNEE(S): Vasopharm Biotech GmbH, Germany

SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

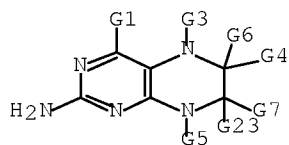
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005037286	A1	20050428	WO 2003-EP3096	20030325
W: US				
CA 2519919	A1	20041007	CA 2003-2519919	20031008
WO 2004084906	A1	20041007	WO 2003-EP11138	20031008
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003293607	A1	20041018	AU 2003-293607	20031008
EP 1605947	A1	20051221	EP 2003-788945	20031008
EP 1605947	B1	20060802		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1758913	A	20060412	CN 2003-80110211	20031008
JP 2006514965	T	20060518	JP 2004-569858	20031008
AT 334681	T	20060815	AT 2003-788945	20031008
ES 2270151	T3	20070401	ES 2003-788945	20031008
MX 2005PA09491	A	20060222	MX 2005-PA9491	20050906
US 20070032498	A1	20070208	US 2005-549200	20050916
PRIORITY APPLN. INFO.:			WO 2003-EP3096	20030325
			WO 2003-EP11138	20031008

AB The invention discloses the use of pteridine derivs. for treating increased intracranial pressure and/or secondary ischemia. Compound preparation is included.

MSTR 3



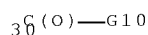
G1 = 20



G2 = alkyl <containing 1-20 C> (opt. substd.) /
cycloalkyl (opt. substd.)

G4 = Ph

G5 = 30



G10 = alkyl (opt. substd. by G11)

Patent location: claim 6

Note: and physiologically tolerated salts, hydrates, and
esters, and tautomers

Stereochemistry: and stereoisomers

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 12 OF 18 MARPAT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 141:307610 MARPAT Full-text

TITLE: Use of pteridine derivatives for the treatment of
increased intracranial pressure, secondary ischemia,
and disorders associated with an increased level of
cytotoxic reactive oxygen species

INVENTOR(S): Doblhofer, Robert; Tegtmeier, Frank

PATENT ASSIGNEE(S): Vasopharm Biotech G.m.b.H., Germany

SOURCE: PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004084906	A1	20041007	WO 2003-EP11138	20031008
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2005037286	A1	20050428	WO 2003-EP3096	20030325
W: US				
CA 2519919	A1	20041007	CA 2003-2519919	20031008
AU 2003293607	A1	20041018	AU 2003-293607	20031008

Serial No.:10/584,996

EP 1605947 A1 20051221 EP 2003-788945 20031008

EP 1605947 B1 20060802

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

JP 2006514965 T 20060518 JP 2004-569858 20031008

MX 2005PA09491 A 20060222 MX 2005-PA9491 20050906

US 20070032498 A1 20070208 US 2005-549200 20050916

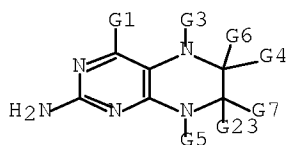
PRIORITY APPLN. INFO.:

WO 2003-EP3096 20030325

WO 2003-EP11138 20031008

AB The present invention relates to the use of pteridine derivs. for the treatment of increased intracranial pressure, secondary ischemia, and disorders associated with an increased level of cytotoxic reactive oxygen species. H4-aminobiopterin (preparation given) caused a clear concentration dependent contraction of both rat basilar arteries and middle cerebral arteries.

MSTR 3



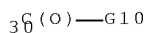
G1 = 20



G2 = alkyl <containing 1-20 C> (opt. substd.) /
cycloalkyl (opt. substd.)

G4 = Ph

G5 = 30



G10 = alkyl (opt. substd. by G11)

Patent location: claim 6

Note: and physiologically tolerated salts, hydrates, and esters, and tautomers

Stereochemistry: and stereoisomers

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 13 OF 18 MARPAT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 141:260771 MARPAT Full-text

Serial No.:10/584,996

TITLE: Preparation of dihydropteridinones as anticancer agents

INVENTOR(S): Hoffmann, Matthias; Grauert, Matthias; Brandl, Trixi; Breitfelder, Steffen; Eickmeier, Christian; Steegmaier, Martin; Schnapp, Gisela; Baum, Anke; Quant, Jens Juergen; Solca, Flavio; Colbatzky, Florian

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma GmbH & Co Kg, Germany

SOURCE: PCT Int. Appl., 111 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004076454	A1	20040910	WO 2003-EP1935	20030226
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
CA 2517020	A1	20040910	CA 2003-2517020	20030226
AU 2003215591	A1	20040917	AU 2003-215591	20030226
EP 1599478	A1	20051130	EP 2003-816028	20030226
EP 1599478	B1	20070509		
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	
BR 2003018145	A	20060221	BR 2003-18145	20030226
CN 1745081	A	20060308	CN 2003-826029	20030226
JP 2006514667	T	20060511	JP 2004-568646	20030226
JP 3876265	B2	20070131		
AT 361924	T	20070615	AT 2003-816028	20030226
ES 2287583	T3	20071216	ES 2003-816028	20030226
CN 101200457	A	20080618	CN 2008-10002434	20030226
ZA 2005005668	A	20060329	ZA 2005-5668	20050714
IN 2005DN03735	A	20070810	IN 2005-DN3735	20050823
NO 2005004414	A	20050923	NO 2005-4414	20050923
JP 2006335769	A	20061214	JP 2006-254000	20060920
IN 2007DN00895	A	20070803	IN 2007-DN895	20070202
IN 2007DN01130	A	20070427	IN 2007-DN1130	20070212
PRIORITY APPLN. INFO.:			CN 2003-826029	20030226
			EP 2003-816028	20030226
			JP 2004-568646	20030226
			WO 2003-EP1935	20030226
			EP 2004-19359	20040814
			EP 2004-19366	20040814
AB			Dihydropteridinones I [R1, R2 = h, alkyl; R1R2 = alkylene; R3 = H, (un)substituted alkyl, alkenyl, alkynyl, aryl, cycloalkyl, cycloalkenyl, spirocycloalkyl, heterocyclyl; R1R3, R2R3 = alkylene, heteroalkylene; R4 = H, CN, OH, halogen, (un)substituted NH2, alkyl, alkenyl, alkynyl, alkoxy, alkenyloxy, alkynyloxy, alkylthio, alkylsulfanyl, alkylsulfonyle; R5 = (un)substituted morpholinyl, piperidinyl, piperazinyl, piperazinylcarbonyl, pyrrolidinyl, tropanyl, diketomethylpiperazinyl, sulfoxomorpholinyl, thiomorpholinyl, azacycloheptyl, (un)substituted NH2; L = alkylene,	

Serial No.:10/584,996

alkenylene, arylene, alkylarylene, arylalkylene, cycloalkylene, heteroarylene; n = 0, 1; m = 1, 2] were prepared for use in the treatment of cancer, infections, inflammation, and autoimmune disease. Thus, the piperazine II was obtained by amidating the acid with 1-(3-aminopropyl)-4-methylpiperazine. II had EC50 against HeLaS3 cells of 0.081 μ M/L.

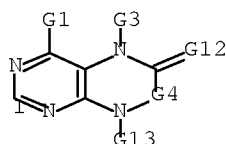
MSTR 1

G17—G15—G18

G1 = NH2
G4 = 14



G12 = O
G13 = alkyl <containing 1-10 C> (opt. substd.)
G15 = NH
G18 = 1



Patent location: claim 1
Note: and pharmacologically acceptable acid addition salts
Note: also incorporates claims 10 and 12
Note: substitution is restricted
Stereochemistry: and tautomers, racemates, enantiomers, diastereomers and mixtures

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 14 OF 18 MARPAT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 138:238200 MARPAT [Full-text](#)

TITLE: Preparation of dihydropteridinones as cell proliferation inhibitors

INVENTOR(S): Hoffmann, Matthias; Grauert, Matthias; Breitfelder, Steffen; Eickmeier, Christian; Pohl, Gerald; Lehmann-Lintz, Thorsten; Redemann, Norbert; Schnapp, Gisela; Steegmaier, Martin; Bauer, Eckhart; Quant, Jens Juergen

Serial No.:10/584,996

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma KG, Germany
 SOURCE: PCT Int. Appl., 112 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

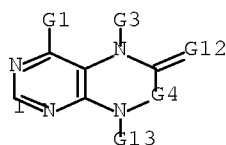
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003020722	A1	20030313	WO 2002-EP9728	20020830
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 20040029885	A1	20040212	US 2002-226710	20020823
US 6806272	B2	20041019		
CA 2458699	A1	20030313	CA 2002-2458699	20020830
AU 2002337047	A1	20030318	AU 2002-337047	20020830
AU 2002337047	B2	20080110		
EP 1427730	A1	20040616	EP 2002-772249	20020830
EP 1427730	B1	20060712		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1551881	A	20041201	CN 2002-817288	20020830
JP 2005501904	T	20050120	JP 2003-524992	20020830
JP 3876254	B2	20070131		
NZ 531928	A	20051028	NZ 2002-531928	20020830
AT 332898	T	20060815	AT 2002-772249	20020830
ES 2268093	T3	20070316	ES 2002-772249	20020830
HU 2004001293	A3	20080328	HU 2004-1293	20020830
US 20040147524	A1	20040729	US 2004-756623	20040113
NO 2004000680	A	20040216	NO 2004-680	20040216
ZA 2004001365	A	20050527	ZA 2004-1365	20040219
BR 2004000582	A	20051018	BR 2004-582	20040225
IN 2004DN00471	A	20050401	IN 2004-DN471	20040226
MX 2004PA02067	A	20040607	MX 2004-PA2067	20040303
IN 2007DN00894	A	20070803	IN 2007-DN894	20070202
PRIORITY APPLN. INFO.:				
DE 2001-10143272 20010904				
US 2001-332681P 20011114				
US 2002-226710 20020823				
WO 2002-EP9728 20020830				
EP 2004-19365 20040814				
AB	Title compds. I [R1 = H, NH2, XH, etc.; R2 = H, CHO, XH; R3, R4 = (un)substituted alkyl, alkenyl, alkynyl, etc.; R5 = H, (un)substituted alkyl, alkenyl, etc.; R6 = (un)substituted aryl, heteroaryl; R7 = H, CO-X-alkyl; X = O, S] and their pharmaceutically acceptable salts were prepared For example, coupling of benzoic acid II, i.e., prepared from 2,4-dichloro-5-nitropyrimidine in 4-steps, and benzylamine afforded dihydropteridinone III. Compds. I are claimed useful as anti-inflammatory, anti-infective and antitumor agents.			

G17—G15—G18

G1 = NH2
G4 = 14



G12 = O
G13 = alkyl <containing 1-10 C> (opt. substd.)
G15 = NH
G18 = 1



Patent location: claim 1
Note: and pharmacologically acceptable acid addition salts
Note: also incorporates claims 10 and 12
Note: substitution is restricted
Stereochemistry: and tautomers, racemates, enantiomers, diastereomers and mixtures

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 15 OF 18 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 134:237499 MARPAT Full-text
TITLE: Preparation of N-substituted-4-aminopteridines as NO synthase inhibitors for use as pharmaceuticals
INVENTOR(S): Pfleiderer, Wolfgang; Schmidt, Harald; Froehlich, Lothar; Kotsonis, Peter; Taghavi-Moghadam, Shahriyar
PATENT ASSIGNEE(S): Vasopharm Biotech G.m.b.H. & Co. K.-G., Germany
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001021619	A1	20010329	WO 2000-EP8833	20000911

Serial No.:10/584,996

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

DE 19944767 A1 20010329 DE 1999-19944767 19990917
EP 1216246 A1 20020626 EP 2000-964154 20000911
EP 1216246 B1 20050824

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

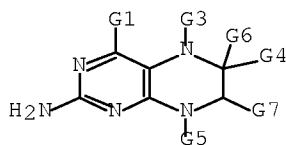
JP 2004522690 T 20040729 JP 2001-524995 20000911
AT 302778 T 20050915 AT 2000-964154 20000911
ES 2248124 T3 20060316 ES 2000-964154 20000911
US 6844343 B1 20050118 US 2002-70976 20020719

PRIORITY APPLN. INFO.:

DE 1999-19944767 19990917
WO 2000-EP8833 20000911

AB Pteridines, such as I [R1, R2 = H, alkyl, aryl, arylalkyl; R1R2 = nitrogen bound heterocyclyl, such as 1-piperidinyl or 4-morpholinyl; R4 = alkyl, alkenyl, alkynyl, cycloalkenyl, aryl, etc.; R3, R5 = acyl, aroyl, R6 = R7 = H, or R3R6 = R5R7 = bond;], were prepared for pharmaceutical use. Thus, pteridine II was prepared via cyclocondensation of N4,N4-dimethylpyrimidinetetramine dihydrochloride and phenylglyoxal monoxime. The prepared pteridines were tested for nitric oxide synthase inhibiting activity.

MSTR 1



G1 = 20



G4 = Ph
G5 = 30

$30^{(O)}-G10$

G10 = alkyl (opt. substd. by G11)

Serial No.:10/584,996

Patent location: claim 1
 Note: and physiologically useful salts, hydrates, and esters
 Stereochemistry: and stereoisomers and tautomers

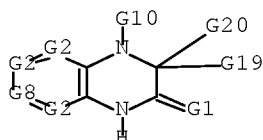
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 16 OF 18 MARPAT COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 132:78568 MARPAT Full-text
 TITLE: Preparation of substituted quinoxalin-2(1H)-ones useful as HIV reverse transcriptase inhibitors
 INVENTOR(S): Patel, Mona; Mchugh, Robert Joseph
 PATENT ASSIGNEE(S): Du Pont Pharmaceuticals Company, USA
 SOURCE: PCT Int. Appl., 164 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000000478	A1	20000106	WO 1999-US14395	19990625
W: AU, BR, CA, CN, CZ, EE, HU, IL, IN, JP, KR, LT, LV, MX, NO, NZ, PL, RO, SG, SI, SK, UA, VN, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2334332	A1	20000106	CA 1999-2334332	19990625
AU 9947196	A	20000117	AU 1999-47196	19990625
EP 1089979	A1	20010411	EP 1999-930715	19990625
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, SI, LT, LV, FI, RO				
PRIORITY APPLN. INFO.:			US 1998-90893P	19980626
			US 1998-90893	19980626
			WO 1999-US14395	19990625

AB The title compds. [I; A = O, S; W = N, CR3; X = N, CR4; Y = N, CR5; Z = N, CR6; C = cyclopropyl, C1-3 alkyl substituted with 3-7 halogens; provided that the number of W, X, Y, and Z which are N, is 0-2; R1 = CO2R12, COR12, SO2R12, etc.; R2 = CH:CR7R8, C.tplbond.CR8, CH:CHCHR7R8, etc.; R3 = H, F, Cl, etc.; R4 = H, F, Cl, etc.; R5 = H, F, Cl, etc.; R6 = H, OH, F, etc.; R7 = H, Me, Et, etc.; R8 = H, F, haloalkyl, etc.; R12 = alkyl, alkenyl, alkynyl, etc.; provided, if simultaneously, each of W, X, Y, and Z are carbon, then R2 is not unsubstituted alkyl], which are useful as inhibitors of HIV reverse transcriptase, were prepared and formulated. E.g. a multi-step synthesis of I [W = X = Y = Z = CH; A = O; C = CF3; R1 = cyclopropylmethyl; R2 = cyclopropylethynyl, etc.] was given. Compds. I have been found to have an IC50 of < 60 μ M in HIV-1 RT assay.

MSTR 1



G1 = O
G2 = N / 13

~~1~~8—G3

G3 = NH2
G8 = N
G10 = 56

~~5~~8¹⁶—G17

G16 = carbon chain <containing 1 or more C,
0-1 double bond, 0-1 triple bond>
G19 = alkyl <containing 1-3 C> (substd. by (3-7) G18)
G20 = 67

~~6~~9²¹—G17

G21 = carbon chain <containing 1 or more C,
0-1 double bond, 0-1 triple bond>
Derivative: or pharmaceutically acceptable salts
Patent location: claim 1
Note: additional ring formation also claimed
Note: substitution is restricted
Stereochemistry: or stereoisomers

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 17 OF 18 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 121:300922 MARPAT Full-text
TITLE: Preparation of azaquinoxalinones as antiviral agents
INVENTOR(S): Billhardt-Troughton, Uta Maria; Roesner, Manfred;
Bender, Rudolf; Meichsner, Christoph
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Eur. Pat. Appl., 42 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 590428	A1	19940406	EP 1993-114934	19930916
EP 590428	B1	19991215		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
AT 187724	T	20000115	AT 1993-114934	19930916

Serial No.:10/584,996

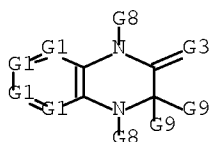
ES 2141744	T3	20000401	ES 1993-114934	19930916
AU 9347553	A	19940331	AU 1993-47553	19930923
AU 664643	B2	19951123		
US 5424311	A	19950613	US 1993-125163	19930923
IL 107081	A	19990714	IL 1993-107081	19930923
CA 2106882	A1	19940327	CA 1993-2106882	19930924
CA 2106882	C	20070417		
ZA 9307081	A	19940418	ZA 1993-7081	19930924
HU 65302	A2	19940502	HU 1993-2696	19930924
JP 06211855	A	19940802	JP 1993-237679	19930924
GR 3032520	T3	20000531	GR 2000-400216	20000131

PRIORITY APPLN. INFO.:

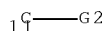
DE 1992-4232392 19920926

AB Title compds. [tautomeric I; R1 = halo, CF₃, OH, (cyclo)alkyl, alkoxy, Ph, etc.; R₂, R₅ = H, OH, alkyl, etc.; R₃, R₄ = H, (cyclo)alk(en)yl, (hetero)aryl, etc.; V, W, Y, Z = CH, CR₁, N; X = O, S, NR₂; n = 0-3] were prepared Thus, 2,6-dichloro-3-nitropyridine was condensed with L-H₂NCHMeCO₂Me and the reduced monocondensed product cyclized to give title compound (S)-II (R₅ = H) which was reductively condensed with Me₂CH:CHCHO to give (S)-II (R₅ = CH₂CH:CHMe₂). The latter had MIC of 0.08µg/mL against HIV in cell culture.

MSTR 1



G1 = (1-2) N / 11



G2 = NH₂

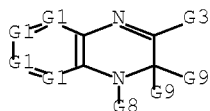
G3 = O

G8 = alkynyl (opt. substd.)

Patent location: claim 1

Note: substitution is restricted

MSTR 2



G1 = (1-2) N / 11

1G—G2

G2 = NH2
 G3 = OH
 G8 = alkynyl (opt. substd.)
 Patent location: claim 1
 Note: substitution is restricted

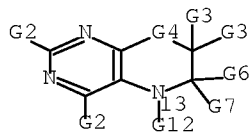
L41 ANSWER 18 OF 18 MARPAT COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 116:83686 MARPAT Full-text
 TITLE: Preparation of pyrimidothiazines as muscle relaxants
 INVENTOR(S): Senaga, Masahiro; Sugimoto, Hachiro; Suzuki, Takeshi;
 Kajiwara, Shoji; Ueno, Koji; Higure, Kunizo; Nagato,
 Satoru; Yoshida, Ichiro; Tanaka, Kazuo; Et, Al.
 PATENT ASSIGNEE(S): Eisai Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03118380	A	19910520	JP 1989-254348	19890929
JP 2886570	B2	19990426		

PRIORITY APPLN. INFO.: JP 1989-254348 19890929

AB The title compds. I [A1, A2 = CH, N; at least one of A1 and A2 is N; R1 = H, OH, alkoxy, NR4R5, etc.; R4, R5 = H, alkyl; R2, R3 = H, alkyl, aryl, etc.; W = SOpNR6, etc.; R6 = H, alkyl; p = 0-2; B = CH2, CO; E = H, Q1; u = 0, 1; X = (CH2)n, (CH2)mCO; m, n = 2-8; Y, Z = N, CR8; R8 = H, OH; r, s = 1-3; R7 = H, alkyl, etc.] were prepared Reaction of thiazine II (T = Br) with N-(2-methoxybenzyl)piperazine in DMF containing Et3N, followed by workup and treatment with HCl, gave II.2HCl (T = Q2), which exhibited a min. ED of 0.1 mg/kg i.v. against contracture in rats.

MSTR 1E



G2 = NH2
 G4 = 40

4H—G5

G5 = loweralkyl

G6 +G7 = 0

Derivative: and pharmacologically acceptable salts

Patent location: claim 1

Search History

L1 1 SEA ABB=ON PLU=ON US2007-584996/APPS

FILE 'REGISTRY' ENTERED AT 17:15:12 ON 25 AUG 2008

L2 20 SEA ABB=ON PLU=ON (10024-97-2/BI OR 1007-99-4/BI OR 1011753-9
 7-1/BI OR 125978-95-2/BI OR 22150-76-1/BI OR 23826-47-3/BI OR
 3218-02-8/BI OR 51471-45-5/BI OR 60-12-8/BI OR 6036-64-2/BI OR
 724420-15-9/BI OR 736919-00-9/BI OR 81827-31-8/BI OR 858127-54-
 5/BI OR 858127-56-7/BI OR 858127-57-8/BI OR 858127-58-9/BI OR
 858127-59-0/BI OR 858127-60-3/BI OR 858127-61-4/BI)

L3 STRUCTURE UPLOADED

L4 50 SEA SSS SAM L3

L5 4906 SEA SSS FUL L3

FILE 'HCAPLUS' ENTERED AT 17:16:06 ON 25 AUG 2008

L6 18880 SEA ABB=ON PLU=ON L5

L7 STRUCTURE UPLOADED

 S L7

FILE 'REGISTRY' ENTERED AT 17:17:41 ON 25 AUG 2008

L8 50 SEA SUB=L5 SSS SAM L7

FILE 'HCAPLUS' ENTERED AT 17:17:42 ON 25 AUG 2008

L9 57 SEA ABB=ON PLU=ON L8

FILE 'REGISTRY' ENTERED AT 17:17:44 ON 25 AUG 2008

L10 50 SEA SUB=L5 SSS SAM L7

FILE 'REGISTRY' ENTERED AT 17:26:21 ON 25 AUG 2008

L11 STRUCTURE UPLOADED

L12 50 SEA SUB=L5 SSS SAM L11

L13 STRUCTURE UPLOADED

L14 5 SEA SUB=L5 SSS SAM L13

L15 74 SEA SUB=L5 SSS FUL L13

FILE 'HCAPLUS' ENTERED AT 17:30:32 ON 25 AUG 2008

L16 113 SEA ABB=ON PLU=ON L15

L17 107 SEA ABB=ON PLU=ON L16 AND (PRY<=2003 OR AY<=2003 OR PY<=2003)

L18 4 SEA ABB=ON PLU=ON DOBLHOFFER R?/AU

L19 56 SEA ABB=ON PLU=ON TEGTMEIER F?/AU

L20 57 SEA ABB=ON PLU=ON (L18 OR L19)

L21 3 SEA ABB=ON PLU=ON L20 AND L17

FILE 'REGISTRY' ENTERED AT 17:32:41 ON 25 AUG 2008

L22 STRUCTURE UPLOADED

L23 0 SEA SUB=L5 SSS SAM L22

L24 4 SEA SUB=L5 SSS FUL L22

L25 1 SEA ABB=ON PLU=ON L24 AND L2

FILE 'HCAPLUS' ENTERED AT 17:34:15 ON 25 AUG 2008

L26 3 SEA ABB=ON PLU=ON L24

FILE 'REGISTRY' ENTERED AT 17:35:08 ON 25 AUG 2008

L27 STRUCTURE UPLOADED

L28 0 SEA SUB=L5 SSS SAM L27

Serial No.:10/584,996

L29 6 SEA SUB=L5 SSS FUL L27

FILE 'HCAPLUS' ENTERED AT 17:35:46 ON 25 AUG 2008

L30 4 SEA ABB=ON PLU=ON L29

FILE 'WPIX' ENTERED AT 17:36:45 ON 25 AUG 2008

L31 0 SEA SSS SAM L27

L32 0 SEA SSS FUL L27

FILE 'BEILSTEIN' ENTERED AT 17:37:57 ON 25 AUG 2008

L33 5 SEA ABB=ON PLU=ON L29

L34 5 SEA ABB=ON PLU=ON L29

L35 1 SEA ABB=ON PLU=ON L34 AND BABSAN/FA
 SEL BABSAN

FILE 'BABS' ENTERED AT 17:38:31 ON 25 AUG 2008

L36 1 SEA ABB=ON PLU=ON 5617307/BABSAN

FILE 'BEILSTEIN' ENTERED AT 17:38:48 ON 25 AUG 2008

L37 4 SEA ABB=ON PLU=ON L34 NOT L35

FILE 'MARPAT' ENTERED AT 17:39:42 ON 25 AUG 2008

L38 1 SEA SSS SAM L27

L39 11 SEA SSS FUL L27

FILE 'HCAPLUS' ENTERED AT 17:41:13 ON 25 AUG 2008

 D STAT QUE L30

L40 3 SEA ABB=ON PLU=ON L30 NOT L21

FILE 'HCAPLUS, BEILSTEIN, BABS, MARPAT' ENTERED AT 17:42:30 ON 25 AUG 2008

L41 18 DUP REM L40 L32 L37 L36 L39 (1 DUPLICATE REMOVED)